

**REMARKS**

**Specification:**

A substitute Abstract is enclosed herewith on a separate sheet to replace the Abstract, as filed. In view of the substitute Abstract, removal of the objection to the Abstract is respectfully requested.

The title of the invention is amended to be that suggested by the Examiner. In view of the amended title, removal of the objection to the title is respectfully requested.

In the above amendments to the specifications, portions of the specification are amended to correct errors of a typographical nature discovered by the Applicant. No new matter is entered.

Claims 4-10 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Reconsideration and removal of this rejection is respectfully requested.

Claims 4-10, are amended to more clearly define the “negative mold” and to provide proper antecedent basis.

The amendments to Claims 4 and 6 include replacing the term “ring-like” with the term “ring-shaped”.

Claim 7 is amended to correct a typographical error in relation to “ratable” which should read “rotatable”. Corrections are included in amendments to the specification in order to provide a proper basis for Claim 7.

In view of the Amendments to Claims 4-10, removal of this rejection is respectfully requested.

The present claimed invention is a device for forming a vessel body which has an open top negative mold, a ring-shaped member for the negative mold with an inside diameter which is smaller than an open top diameter of the negative mold, a cylindrical rotary trowel which is mechanically fixed to move against an inner surface of the negative mold within a predetermined range and is at least longer than a height of an inner wall surface of the vessel body to be formed, and a rotary trowel drive.

Claim 4 is rejected under 35 USC §102(b) as being anticipated by Baird (U.S. Patent No. 2,218,804). Reconsideration and removal of this rejection is respectfully requested.

Baird '804 describes a plastic forming apparatus which appears to have an open top negative mold, a conically shaped rotary trowel which is mechanically fixed to move against an inner surface of the negative mold within a predetermined range and which is longer than a height of an inner wall surface on the vessel body to be formed, and a rotary trowel drive. It is respectfully submitted that ring-like member (39) of Baird, which is alleged to correspond to the claimed ring-shaped member for the negative mold with an inside diameter which is smaller than an open top diameter of the negative mold, is described at col. 4, lines 25-30 of the disclosure of Baird as being a trimmer ring mounted on an upper end of spinner body (13) and does not form a portion of the mold as defined in the present claimed invention.

It is respectfully submitted that the present claimed invention is patentably distinct from the apparatus of Bard '804 because of the difference in shape of the respective rotary trowels and the lack of a ring-shaped member for the negative mold, in the apparatus of Baird. In view of those distinctions, removal of this rejection is respectfully requested.

Claims 5-6 and 8 are rejected under 35 U.S.C. §103(a) as being unpatentable over Baird ('804) in view of Ritter (U.S. Patent No. 2,293,172). Reconsideration and removal of this rejection is respectfully requested.

Baird '804 is discussed above. Ritter describes a device for embossing the sides of ceramic pots. The device appears to have a mold (41) made up of outer housing (44) which is not split, mold sections (47) which are split, and an annular flange of the mold (45). Also described is a conically shaped rotary trowel (57) which is mechanically fixed to move against an inner surface of the negative mold within a predetermined range and which is longer than a height of an inner wall surface of the vessel body to be formed, and a trowel drive. It is respectfully submitted that ring-like lid member (45) of Ritter, which is alleged to correspond to the claimed ring-shaped member for the negative mold with an inside diameter which is smaller than an open top diameter of the negative mold, is described at col. 3, lines 30-33 of Ritter as being an annular flange on mold (41). Also, component (44), which is alleged to correspond to the present shave stand (4), is described by Ritter as being an outer housing of the mold.

In view of those distinctions, it is respectfully submitted that the claimed invention is patentably distinct from the cited references. Removal of this rejection is respectfully requested.

Claims 7 and 9 are rejected under 35 USC §103(a) as being unpatentable over Baird ('804) as applied to Claim 4 above, and further in view of Baird (U.S. Patent No. 1,137,946) Reconsideration and removal of this rejection is respectfully requested.

Baird '804 is discussed above. Baird '946 describes a molding machine having a table (3) which is rotatable in a horizontal plane to bring a plurality of molds (6) into position for molding. The machine does not provide a means for rotating a mold or a shave stand about the mold's central axis, as defined in the present claimed invention.

In view of the above discussion, it is respectfully submitted that the claimed invention is patentably distinct from the cited references. Removal of this rejection is respectfully requested.

Claims 7-8 and 10 are rejected under 35 USC §103(a) as being unpatentable over Baird ('804) as applied to Claim 4 above and further in view of Andersen et al. (U.S. Patent No. 5,658,603). Reconsideration and removal of this rejection is respectfully requested.

Baird '804 is discussed above. Andersen et al. describes systems for molding articles having an inorganically filled organic polymer matrix. In Figs. 11 a-d, and at col. 52, line 60 to col. 53, line 28 of Andersen et al. a process is described wherein a mold (102) inserted in a cup-like cavity (not numbered) is rotated about the mold axis, a moldable mixture (106) is provided inside the mold, and a rotating head (100) is inserted into the mold to mold the moldable mixture on to the sides of the mold.

Andersen appears to describe a rotatable feature of the mold, as defined in Claim 7 and a shave stand as defined in Claim 8. However, the roller head (100), which appears to be comparable to the present trowel, is not cylindrically shaped, and a ring-shaped member for the negative mold with an inside diameter which is smaller than an open top diameter of the negative mold is not shown. The

relative rotational speeds of the negative mold and the rotary trowel, which are defined in Claim 10, is not described.

In view of the above discussion, it is respectfully submitted that the claimed invention is patentably distinct from the cited references. Removal of this rejection is respectfully requested.

It is believed that Claims 4-10 are now in condition for allowance and allowance of those claims is respectfully requested.

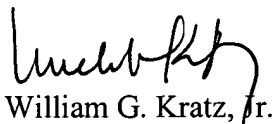
Attached hereto is a marked-up version of the changes made to the specification and claims by the present amendment. The attached page is captioned "**A Version with Markings to Show Changes Made.**"

If there are any issues of a minor nature remaining, the Examiner is urged to contact Applicants' attorney, the undersigned, at Area Code (202) 659-2930.

In the event that any fees are due in connection with this paper, please charge our Deposit Account No. 01-2340.

Respectfully submitted,

ARMSTRONG, WESTERMAN & HATTORI, LLP

  
William G. Kratz, Jr.  
Reg. No. 22,631

Atty. Docket No. 000549  
Suite 1000  
1725 K Street, N.W.  
Washington, D.C. 20006  
Tel: (202) 659-2930  
Fax: (202) 887-0357

H:\HOME\NANCY\00\000549\AMENDMENT - PTO

Version with Markings to Show Changes Made

In the Specification:

The paragraph beginning on page 2, line 13 has been amended as follows:

When the waste paper material is applied to the surface of a negative mold by means of a trowel, the material is easily repelled [form] from or hardly stuck on the mold so that no shape is formed thereon.

The paragraph beginning on page 2, line 25 has been amended as follows:

However, it is impossible to obtain quality similar to the pottery [day] clay even if a water content of the waste paper material is carefully controlled when the material is prepared by simply slurrying waste paper in water. The slurried waste paper is hardly used as a starting material at a higher water content while it becomes rather dry and decreases a viscosity impracticably at a lower water content.

The paragraph beginning on page 5, line 11 has been amended as follows:

The negative mold may be a [ratable] rotatable type and be forcibly rotated in the same rotating direction of the rotary trowel at a surface rotational speed lower than that of the rotary trowel so as to form a vessel body.

The paragraph beginning on page 5, line 15 has been amended as follows:

When such a negative mold of [ratable] rotatable type is used, the mold per se can be rotated by means of the rotary trowel, while formation of a vessel body is conducted successfully as a result of different rotation of the mold and the trowel. It is an important feature of the present invention that rotation of the negative mold is slower than that of the rotary trowel. The negative mold may also be forcible [rotation] rotated by means of a drive such as a motor.

The paragraph beginning on page 5, line 23 has been amended as follows:

Further, the negative mold used in the present invention may be a split type. A ring-like lid member may be integrally formed on such a negative mold of split type. The ring-like lid member may be integrally formed either on each split half as a part thereof or on one of the split halves as a whole if the ring-like lid member is not split. The split type mold may be a [ratable] rotatable type.

The paragraph beginning on page 6, line 4 has been amended as follows:

There may be used a drive which rotates the negative mold in the same rotating direction as the rotary trowel at a surface [a] rotational speed lower than that of the trowel.

The paragraph beginning on page 6, line 17 has been amended as follows:

The negative mold may be fixed directly to a support such as a [ratable] rotatable shaft in an undetachable or detachable situation. As the negative mold should be changed depending on a

type or kind of vessel bodies to be formed, the mold is replaced together with the above mentioned support, shave stand and/or turntable unless [other wise] otherwise the mold is fixed undetachably.

The paragraph beginning on page 6, line 23 has been amended as follows:

A combination of each negative mold, shave stand and [turns] turn table is necessarily fixed rotatably around the axial center while drive for the shave stand is not necessary in general because the shave stand is forcibly rotated through a forming material with the force of the rotary trowel during the forming process. When a large vessel body is formed, however, a torque of the rotary trowel is not enough to rotate the shave stand and the negative mold with a large amount of material. A drive may be used in such a case to rotate a combination of [these] the negative mold, shave stand and turn table.

The paragraph beginning on page 7, line 11 has been amended as follows:

A mold lid may be detachably fitted to the negative mold by conventional means such as screws. The mold lid is formed as a ring-like disc by cutting off [round] around the central part thereof and protruded inward like a flange on the negative mold, protruded width thereof corresponding to thickness of the top surface of the vessel body. The lid is put on the mold during the forming process and [put] taken off when the formed vessel body is taken out therefrom. In the case of a particular mold type, such as a negative mold separable into two parts for easier ejection of the product, the lid may be fixed to the mold undetachably.



The paragraph beginning on page 7, line 21 has been amended as follows:

The method or [devise] device of the present invention is [the] most effectively used to form materials of extremely low viscosity, and is also usefully applicable to conventional materials such as porcelain clay as a matter of course.

The paragraph beginning on page 7, line 25 has been amended as follows:

The material used in the present method or [devise] device is prepared by simply slurring waste paper in water.

The paragraph beginning on page 10, line 22 has been amended as follows:

The rotary trowel 1 is conventionally fixed to the arm by a pair of [screw] screws and [nut] nuts while the arm is adjusted to [moves] move within a predetermined range so that the rotary trowel 1 does not move downward over the above mentioned position in the shave stand 4 and also keeps a certain space to the inner surface of the negative mold.

The paragraph beginning on page 13, line 27 has been amended as follows:

The flower pot exhibited sufficiently high density and [fur] excellent appearance of inner and outer surfaces thereof compared with that of a conventional product made mainly of waste paper. The flower pot was so strong that no additional reinforcement such as waxing was necessary.

The paragraph beginning on page 14, line 16 has been amended as follows:

A flower pot comprising a mono-layer of charcoal mixed material has a coarse outer surface where charcoal particles are exposed, which tends to come off [or] and soil a user's hands. On the other hand, the double-layered product formed by the present invention has no such defect and keeps a useful effect of the charcoal mixture for a long time.

The paragraph beginning on page 14, line 22 has been amended as follows:

It is important for preparing a multi-layered vessel body to form layers in the outer-to-inner order, that is, the outermost layer is formed at first and dried, then the second one is formed and dried and such a process may be repeated. For example, the outer layer is completed and then the second layer of the charcoal mixture is formed followed by drying the double-layered product as a whole, as described above. If the second layer is formed before the first layer is not dried charcoal particles are allowed to invade into the first layer during the forming process and are finally cropped out of the outer surface, which is inconvenient [similarly as] similar to the mono-layer product of charcoal mixture.

The paragraph beginning on page 15, line 7 has been amended as follows:

A half of a negative mold is shown in Fig. 8, which structure is quite different from that [of] used in the above Examples. This split type mold consists of two completely symmetrical halves thereof to be combined into one and is supported by a shave stand (not shown). Using the split type mold, a vessel body is formed similarly as described above. After the forming process is

completed, the negative mold is removed from the shaving stand and split into two to take out a vessel body.

IN THE CLAIMS:

Claims 4-10 have been amended as follows:

4. (Amended) A device for forming a vessel body which comprises an open top negative mold, a [ring-like] ring-shaped member [of a] for the negative mold[, which] with an inside diameter which is smaller than an open top diameter of the negative mold, a cylindrical rotary trowel which is mechanically fixed to move against an inner surface of the negative mold within a predetermined range and is at least longer than a height of an inner wall surface of the vessel body to be formed, and a rotary trowel drive.

5. (Amended) A device claimed in Claim 4 in which [a] the negative mold is a split type.

6. (Amended) A device claimed in Claim [4] 5 in which [a] the [ring-like] ring-shaped lid member [of a] for the negative mold is integrally fixed to at least one split [halves] half of the split type negative mold.

7. (Amended) A device claimed [in claimed] in Claim 4 in which [a] the negative mold is a [ratable] rotatable type wherein the negative mold is rotated about a central axis of the negative mold.

8. (Amended) A device claimed in Claim 4 which further comprises a shave stand for fitting [a] the negative mold.

9. (Amended) A device claimed in Claim 4 which further comprises a turn table, rotatable about a central axis of the negative mold, for supporting [a] the negative mold or a shave stand.

10. (Amended) A device claimed in Claim 4 which further comprises a drive means for rotating [a] the negative mold in the same rotating direction [of] as the rotary trowel at a surface rotational speed lower than that of the rotary trowel.